

TERENT'YEV, G. V., Cand Med Sci -- (diss) "Osteosynthesis  
medial and lateral fractures of the femoral neck (clinico-  
experimental study)." Yaroslavl', 1957. 16 pp (Min of Health  
RSFSR, Mos Med Stomatological Inst. <sup>from the</sup> Chair of Hospital Surgery,  
State Yaroslavl' Med Inst) (KL, 1-58, 122)

- 104 -

TERENT'YEV, G.V., kand.med.nauk

Rare variations in the location of the deep femoral artery and  
cases of its absence. Sbor.nauch.trud.Vin.der.med.inst. 18:114-  
120 '58.  
(MIRA 16:2)

1. Kafedra operativnoy khirurgii i topograficheskoy anatomii  
(zav. kafedroy doktor med.nauk P.P. Kulik) Vinnitskogo gosu-  
darstvennogo meditsinskogo instituta.  
(ARTERIES—ANOMALIES AND DEFORMITIES)  
(EXTREMITIES, LOWER—BLOOD SUPPLY)

TERENT'YEV, G.V., kand.med.nauk

Neurovascular zone in the region of the hip. Sbor.nauch.trud.  
(MIRA 16:2)  
Vn.der.med.inst. 18 no.1:29-33 '58.

1. Kafedra operativnoy khirurgii i topograficheskoy anatomi  
(zav. kafedroy doktor med.nauk P.P. Kulik) Vinnitskogo gosu-  
darstvennogo meditsinskogo instituta.  
(EXTREMITIES, LOWER--BLOOD SUPPLY)  
(EXTREMITIES, LOWER--INNERVATION)

TERENT'YEV, G.V., kand.med.nauk

Case of anomaly of the vena cava superior, the aorta, and the  
branches of its arches. Sbor.nauch.trud.Vin.der.med.inst. 18  
no.2:110-113 '58. (MIRA 16:2)

1. Kafedra operativnoy khirurgii i topograficheskoy anatomi<sup>i</sup>  
(zav. kafedroy doktor med.nauk P.P. Kulik) Vinnytskogo gosu-  
darstvennogo meditsinskogo instituta.  
(BLOOD VESSELS—ABNORMALITIES AND DEFORMITIES)

TERENT'YEV, G.V. (Vinnitsa, ul. Bogdana Khmel'nitskogo, d.27, kv.1)

Variants of the branches of the aortic arch. Grud. khir. 6 no.4:55-57  
(MIRA 18:4)  
Jl-Ag '64.

TERENT'YEV, G.V.

Use of proteolytic enzymes in a compound treatment of chronic  
highmoritis. Zhur.ush., nos. i gorl. bol. 24 no.5:72-73 S-0 '64.  
(MIRA 18:3)

1. Iz laboratorii biokhimii (zav. - dotsent K.N.Veremeyenko) i  
klinicheskogo otdela (zav. - kand. med.nauk Ye.A.Yevdoshchenko)  
Nauchno-issledovatel'skogo instituta otolaringologii Ministerstva  
zdravookhraneniya UkrSSR (dir. - zasluzhennyy deyatel' nauki  
prof. A.I.Kolomiychenko).

TERENT'YEV, G.Ye.

Review of A.K.Matveev's book "Geology of the coal deposits of the  
U.S.S.R." Izv.vys.ucheb.zav.; geol.i razv. 4 no.2:142-143 P '61.  
(MIFI 14:6)

1. Kemerovskiy gornyy institut.  
(Coal geology)  
(Matveev, A.K.)

TERENT'YEV, G.Ye.

Tectonic movements during the formation of the Erbek series  
in Tuva. Geol.i geofiz. 4:44-52 '62. (MIR 15:8)

1. Kemerovskiy gornyy institut.  
(Tuva A.S.S.R.—Geology)

TERENT'EV, I.

Podvig naroda: stroitel'stvo Bol'shogo Ferganskogo kanala im. I. V. Stalina.  
[People's feat: the construction of the Great Ferghana Canal]. Moskva, Gos.izd-vo  
kolkhoznoi i sovkhозnoi lit-ry, 1940. 110 p. illus., porta., map. DIC: HE:66.67T4

SO: Soviet Transportation and Communication, A Bibliography, Library of Congress,  
Reference Department, Washington, 1952, Unclassified.

TERENT'YEV, I.

Experience in drifting in shale mines. Mast.ugl. 2 no.12:11-12 D '53.  
(MIREA 6:11)

1. Brigadir prokhodchikov shakhty No.10 kombinata Etonslanets.  
(Oil shale) (Mining engineering)

24(5)

AUTHORS:

Novozhilov, Yu. V., Terent'yev, I. A. SOV/56-36-1-18/62

TITLE:

The Two-Nucleon LS-Potential in the Nonrelativistic Meson Theory (Dvukhnukleonnnyy LS-potentsial v nerelyativistskoy mezonnoy teorii)

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959,  
Vol 36, Nr 1, pp 129-139 (USSR)

ABSTRACT:

It is of interest to investigate the question as to what potential that is dependent on velocity can be derived from the meson theory without using the perturbation theory. In the present paper the LS-potential is derived within the framework of a meson theory which is nonrelativistic with respect to the nucleons. Short mention is made of several arguments against such a theory. However, in the case of the two-nucleon problem the here discussed nonrelativistic method of dealing with the problem is perfectly justified. A favorable circumstance is the resonance-light behavior of  $(\pi - N)$ -scattering. Therefore, the center of mass of the matrix elements for  $(\pi - N)$ -scattering is not in the nonrelativistic domain, and it is just these matrix elements that occur in the velocity-dependent two-nucleon potential. As to the interaction Hamiltonian, the here discussed

Card 1/3

The Two-Nucleon LS-Potential in the Nonrelativistic  
Meson Theory

SOV/56-36-1-18/62

method of calculating the potential does not depend essentially on the type of interaction. In the present paper the potential caused by pseudovectorial binding is investigated. Calculations were carried out on the basis of the theory of the scattering of "clouded" particles. (Ref 6). Renormalization in calculations carried out without the perturbation theory presents considerable difficulties which, however, do not arise in the present paper, because here only the linear approximation with respect to velocity is used. The problem can then be renormalized in the same manner as in the static case. The first chapter deals in full detail with the initial formulas for the potential, and in the second chapter the potential is calculated. Details of calculations are not discussed because of similarity with potential calculation in the static case. The last chapter gives a short account of an asymptotic development for this potential  $W_{LS}$ . The expressions found for this potential for

the first time make it possible to form an opinion as to the extent to which the representations of the non-relativistic meson theory for ( $N - N$ )-scattering in the range of low

Card 2/3

The Two-Nucleon LS-Potential in the Nonrelativistic Meson Theory SOV/56-36-1-18/62

energies are correct. The authors thank Member of the Academy V. A. Fok for valuable indications concerning the problem of asymptotic potential development. There are 10 references, 2 of which are Soviet.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

SUBMITTED: May 26, 1958 (initially), and September 27, 1958 (after revision)

Card 3/3

TERENT'YEV, I. A.

Cand Phys-Math Sci - (diss) "Semi-phenomenological theory of scattering of nucleons by nucleons." Leningrad, 1961. 10 pp; (Leningrad Order of Lenin State Univ imeni A. A. Zhdanov); 180 copies; price not given; (KL, 7-61 sup, 220)

S/054/61/000/C01/002/008  
B117/B203

AUTHORS: Mityureva, I. A., Perekalin, M. M., Terent'yev, I. A.

TITLE: Two-nucleon problems with semiphenomenological meson potential

PERIODICAL: Vestnik Leningradskogo universiteta. Seriya fiziki i khimii, no. 1, 1961, 19-24

TEXT: In the present paper, the authors discussed the two-nucleon potential obtained by Yu. V. Novozhilov and I. A. Terent'yev (Ref. 3: ZhETF, 36, 129, 1959). This potential was modified by using the Lorentz transformation instead of the Galilean transformation. The authors attempted to compare the theoretical conclusions with the experimental data. The potential was tabulated, and the proton-proton scattering as well as corrections with respect to the magnetic moment of the deuteron were calculated. The calculated values were compared with experimental data. A consideration of the formulas for the potential showed that they were very extensive. The integration in finite form cannot be made. Numerical computations are necessary. Such computations were made with a

Card 1/3

Two-nucleon problems with...

S/054/61/000/001/002/008  
B117/B203

"СТРЕЛА" (Strela) computer, and potential tables were compiled. The formula for the  $\delta_{33}$  phase written down by Anderson (Ref. 6: H. Anderson.

Proc. of the Sixth Annual Rochester Conference, Intersci. Publ. N. Y. 1956) was used for computations. On the basis of these computations, it is possible to compare the relative potential contribution due to the exchange of a meson with the potential contribution due to the exchange of two mesons. The minimum value for R in the tables was 0.4. In most cases, the main contribution to the potential is supplied in the initial region by the terms dependent on the cross section of the TN scattering (usually,  $W_{\delta c}^L$  is particularly large). For spin orbit forces, for instance,  $W_{\delta o}^L$  (isotopic triplet) and  $W_{\delta s}^L$  (isotopic singlet) are particularly large.

The spin orbit potential is the fastest-dropping part; for  $R > 2.5$ , it plays the role of a very slight correction. It had been shown earlier that an asymptotic integration was possible in the formula for the LS potential. This may also be applied to the static part. Calculations showed that an asymptotic expansion for  $R > 2.5$  was justified. The proton-proton scattering was chosen for checking the theory, since a great number of accurate

Card 2/3

Two-nucleon problems with...

S/054/61/000/001/002/008  
B117/B203

experimental data were available for this case. A comparison of calculated and experimental data showed good agreement with the theory for energies of 18 and 40 Mev. As was expected, the agreement deteriorated at higher energies. Finally, the authors investigated the LS forces and the magnetic moment of the deuteron. When calculating  $(\Delta\mu)_{LS}$ , they neglected the contribution of the wave function of the D state; a phenomenological wave function with the following parameters was taken for the S state: probability of the D state, 4%; effective deuteron radius,  $1.704 \cdot 10^{-13}$  cm; radius of the nuclear core,  $0.5610 \cdot 10^{-13}$  cm. This gives a minor positive correction  $(\Delta\mu)_{LS} = 0.00207$  nuclear magnetons. Thus, the probability of the D state increases by 36 %. The authors thank Yu. V. Novozhilov for conducting the work, and I. V. Mukhina for making a number of computations. There are 1 table and 16 references:

Card 3/3

TERENT'YEV, I.A.

Public review-competition in using hidden production potentialities  
at the Vladimir Economic Council. Biul.tekh.-ekon.inform. no.6:79-  
80 '61. (MIRA 14:6)  
(Vladimir Province--Economic councils)

MITYUREVA, I.A.; PEREKALIN, M.M.; TERENT'YEV, I.A.

Two-nucleon problems with a semiphenomenological meson potential.  
Vest LGU 16 no.4:19-24 '61. (MIRA 14:3)  
(Nucleons) (Protons---Scattering)

TERENT'YEV, I.A.; KUNI, F.M.

Expressing the amplitude of the  $2\pi \rightarrow \bar{N}N$  reaction in terms of  
the phases of  $\bar{\pi} - \bar{\pi}$  and  $\pi - N$  scattering. Vest. LGU 16  
no. 16:5-18 '61. (MIRA 14:8)

(Mesons--Scattering)  
(Nuclear reactions)

22140  
S/056/61/040/003/020/031  
B108/B209

24:6900 (1138119, 1559)

AUTHORS: Kuni, F. M., Terent'yev, I. A.

TITLE: A method of successive extension of the range of known spectral functions in the Mandelstam representation

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 40, no. 3, 1961, 866-878

TEXT: The authors perform an approximative calculation of the nucleon-nucleon scattering amplitude on the basis of the Mandelstam representation. The aim of the study is to establish a semiphenomenological method of determining the amplitude of nucleon-nucleon scattering from the amplitudes of pion-pion and pion-nucleon scattering. Part I of the paper deals with the Mandelstam equations (Refs. 1, 2: S. Mandelstam. Phys. Rev., 112, 1944, 1958; K. A. Ter-Martirosyan. ZhETF, 39, 827, 1960). In part II, it is shown how from the absorbed portion of the amplitude, given in the physically meaningful region, the spectral functions in Mandelstam representation may be found for a successively extending range. The reactions of pion-pion, pion-nucleon, and nucleon-nucleon scattering are given by

Card 1/6

X

22140

A method of successive ...

S/056/61/040/003/020/031  
B108/B209

$$\pi(q_1) + \pi(q_2) \rightarrow \pi(q_3) + \pi(q_4), \quad (\text{A.I}) \quad (\text{A.I})$$

$$\pi(q_1) + \pi(-q_4) \rightarrow \pi(q_3) + \pi(-q_3), \quad (\text{A.II}) \quad (\text{A.II})$$

$$\pi(q_1) + \pi(-q_3) \rightarrow \pi(-q_2) + \pi(q_4) \quad (\text{A.III}) \quad (\text{A.III})$$

$$\pi(q_1) + N(p_1) \rightarrow \pi(q_3) + N(p_2), \quad (\text{B.I}) \quad (\text{B.I})$$

$$\pi(-q_2) + N(p_1) \rightarrow \pi(-q_1) + N(p_2), \quad (\text{B.II}) \quad (\text{B.II})$$

$$N(p_1) + \bar{N}(-p_2) \rightarrow \pi(-q_1) + \pi(q_2) \quad (\text{B.III}) \quad (\text{B.III})$$

$$N(n_1) + N(p_1) \rightarrow N(n_2) + N(p_2), \quad (\text{C.I}) \quad (\text{C.I})$$

$$N(n_1) + \bar{N}(-p_2) \rightarrow \bar{N}(-p_1) + N(n_2), \quad (\text{C.II}) \quad (\text{C.II})$$

$$N(n_1) + \bar{N}(-n_2) \rightarrow \bar{N}(-p_1) + N(p_2) \quad (\text{C.III}) \quad (\text{C.III}),$$

respectively.  $\pi(q)$  denotes the pion with the four-momentum  $q$ ;

Card 2/6

221;0

S/056/61/040/003/020/031  
B108/B209

A method of successive ...

$N(p)$  and  $\bar{N}(p')$  are the nucleon and antinucleon with the four-momenta  $p$  and  $p'$ , respectively. The Mandelstam system of equations is found by writing the unitary conditions for the spectral functions of the above reactions in approximation for elastic scattering. When the partial amplitudes  $h_i(v^2)$  are given, the expression

$$A_1(\sigma_1, \sigma_2) = \sum_i \text{Im } h_i(v^2) P_i(\cos \chi). \quad (80) \quad (80)$$

follows for the absorbed portion of the amplitude in the case (A.I);  $l$  denotes the moment of momentum,  $v$  the momentum,  $\chi$  the scattering angle in the c.m.s., which is related to the relativistically invariant variables  $\sigma_1 = (q_1 + q_2)^2$ ,  $\sigma_2 = (q_1 - q'_4)^2$ ,  $\sigma_3 = (q_1 - q_3)^2$  (1) by the relations

$$\sigma_1 = 4\mu^2 + 4v^2, \quad \sigma_2 = -2v^2(1 + \cos \chi), \quad \sigma_3 = -2v^2(1 - \cos \chi). \quad (81),$$

where  $\mu$  is the mass of the pion at rest. When  $v = \text{const}$ , the  $A_i$  are

Card 3/6

22140

S/056/61/040/003/020/031  
B108/B209

A method of successive ...

found from Eq. (80) for all regions where the spectral functions  $A_{13}(\sigma_1, \sigma_3) = 0$ ,  $A_{12}(\sigma_1, \sigma_2) = 0$  (82). This region is termed the region of zeroth approximation with respect to the absorbed portion. If  $A_1(\sigma_1, \sigma_3)$  is known in this region, the spectral function  $\chi(\sigma_3, \sigma_1) + \chi(\sigma_1, \sigma_3)$  may be found from

$$A_{13}^{(1)}(\xi, \eta) = -\frac{1}{4\pi^2 \eta^{1/2} (\eta/4 - \mu^2)^{1/2}} \int_{(\xi_1 < \xi)} dx dy \frac{A_1(x, \eta) A_1(y, \eta)}{[(\xi - \xi_1)(\xi - \xi_2)]^{1/2}}, \quad (12)$$

$$\begin{aligned} \xi_{1,2} = \xi_{1,2}(\eta; x, y) = x + y + \frac{2xy}{\eta - 4\mu^2} \pm \frac{2}{\eta - 4\mu^2} \times \\ \times [x^2 + (\eta - 4\mu^2)x]^{1/2} [y^2 + (\eta - 4\mu^2)y]^{1/2}, \end{aligned} \quad (13)$$

in regions where

$$\sigma_2 < \xi_1(\sigma_1; \sigma_1^{(0)}(\sigma_1), 4\mu^2), \quad \sigma_1 < \xi_1(\sigma_2; \sigma_1^{(0)}(\sigma_2), 4\mu^2).$$

which are termed the regions of zeroth approximation of the spectral function  $A_{13}(\sigma_1, \sigma_3)$ . By extending the region in which the absorbed

Card 4/6

22140

A method of successive ...

S/056/61/040/003/020/031  
B108/B209

portion  $A_1(\sigma_1, \sigma_3)$  is known, one may, by Eq. (12), extend the region where the spectral functions  $A_{13}(\sigma_1, \sigma_3)$  and  $A_{12}(\sigma_1, \sigma_2)$  are known, so that the region of this  $A_1(\sigma_1, \sigma_3)$  may be extended anew. This extension is only possible if  $\chi_A(\sigma_1, \sigma_3)$  (that portion of  $A_{13}(\sigma_1, \sigma_3)$  which is due to inelastic scattering with energies  $\sigma_1$  and  $\sigma_3$ ) vanishes. The calculation for pion-nucleon and for nucleon-nucleon scattering is analogous. The phase of nucleon-antinucleon annihilation into two pions may then be expressed in terms of the pion-pion scattering phase and of the absorbed portion of the pion-nucleon scattering amplitude if the integral equation of the latter for a fixed scattering angle can be solved by the method of M. I. Muskhelishvili (Ref. 6: Singulyarnyye integral'nyye uravneniya, Gostekhizdat, 1946). The authors thank Yu. V. Novozhilov for advice and his interest in this study. There are 6 references: 3 Soviet-bloc and 2 non-Soviet-bloc.

Card 5/6

22140

X

A method of successive ...

S/056/61/040/003/020/031  
B108/B209

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State  
University)

SUBMITTED: September 20, 1960

Card 6/6

NOVOZHILOV, Yu.V.; TERENT'YEV, I.A.

The inhomogeneous  $P(SU_6)$  group in the theory of elementary particles.  
Vest. LGU 20 no.10:5-12 '65. (MIRA 18:7)

NOVOZHILOV, Yu.V.; TERENT'YEV, I.A.

Symmetry of elementary particles in the theory of inhomogeneous groups. Dokl. AN SSSR 165 no.3:530-533 N '65. (MIRA 18:11)

1. Leningradskiy gosudarstvenny universitet im. A.A. Zhdanova.  
Submitted February 10, 1965.

MVOD'BUKOV, Yu.V.; TERENT'EV, L.I.

Theory of SU(6)-symmetry of elementary particles. Dokl. AN SSSR  
165 no. 4 (300-802) D 165. (MIRA 18412)

L. leningradskiy gosudarstvennyy universitet im. A.A.Zhdanova.  
Submitted June 23, 1965.

TERENT'YEV, M., general-major aviateli

And over the Pacific Ocean... Kryl. rod. 16 no.9:1-2 S '65.  
(MIRA 18:12)

TERENT'YEV, I.K., inzh.

Friction and ventilation losses in turbine wheels. Izv. vys.  
ucheb. zav.; energ. 2 no.7:74-79 Jl '59.

(MIRA 13:1)

1. TSentral'nyy kotloturbinnyy institut im. I.I. Polzunova.  
(Turbines)

8(

SOV/143-59-11-12/19

AUTHOR: Terent'yev, I.K., Engineer

TITLE: Research on the Structure of the Flow in the Clearance at the Extremities of the Active Arch of a Stage with Partial Admission

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Energetika, 1959, Nr 11, pp 94-99 (USSR)

ABSTRACT: The article deals with 4 sets of graphs showing the results of the research carried out by the Central Boiler and Turbine Institute imeni I.I. Polzunov. ✓  
Details of the experiments are given. Both the guiding and the rotating blades had "TN-2" and "T-2" profiles. The 1st and 4th sets of graphs (Fig 1 and 4) show the changes of the flow parameters at the ends of the active arch considering its periphery, middle and root sections, respectively. The 2nd set of graphs (Fig 2) shows the changes of the reaction degree at the extremities of the active arch (middle diameter). The 3rd set of graphs (Fig 3) visualizes the changes

Card 1/3

SOV/143-59-11-12/19

Research on the Structure of the Flow in the Clearance at the Extremities of the Active Arch of a Stage with Partial Admission

of the angle of incidence of the flow upon the rotating blades, the changes of the relative velocity as well as the changes of the velocity ( $w_1$ ) in the gap

at the ends of the active arch (middle diameter). Pneumometric tubes having low sensitivity to a flow non-uniformity were used as measuring instruments for establishing the flow and exit angle parameters. The practical advice based on the experiments is as follows: to lower the loss component at the ends, it is necessary, at moderate speeds, to use rotating blades with rounded-off inlet edges. The gap between the edges of the rotating and guide blades must be eliminated or reduced to a minimum. There are 4 sets of graphs and 2 Soviet references.

✓

ASSOCIATION: Tsentral'nyy kotloturbinnyy institut imeni I.I.  
Card 2/3

SOV/143-59-11-12/19  
Research on the Structure of the Flow in the Clearance at the  
Extremities of the Active Arch of a Stage with Partial Admission

Polzunova (Central Boiler and Turbine Institute  
imeni I.I. Polzunov)

SUBMITTED: June 27, 1959

✓

Card 3/3

TERENT'YEV, I.K., inzh.

Investigating active stages with partial feed of the working  
medium. Energomashinostroenie 6 no.4:15-17 Ap '60.

(MIR 13:8)  
(Steam turbines)

TERENT'YEV, I. K. Cand Tech Sci -- "Study of aerodynamic characteristics and energy losses in steps with partial supply of active mixture." Len, 1961 (Min of Higher and Secondary Specialized Education RSFSR. Len Polytechnic Inst im M. I. Kalinin). (KL, 4-61, 201)

-24-

33332  
S/143/61/000/012/004/005  
D299/D305

26.2120

AUTHORS: Markov, N.M., Candidate of Technical Sciences, and  
Terent'ev, I.K., Engineer

TITLE: Ventilation losses of a turbine body due to pressure  
gradient in the rim blades

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Energetika,  
no. 12, 1961, 55 - 59

TEXT: The results are given of an experimental study of the influence of a pressure gradient in the rim blades on the magnitude of ventilation losses. An experimental turbine was used. The experimental error in determining the ventilation losses  $N_B$  did not exceed 3 %. Two turbine wheels of mean diameter 600 mm and blade height 23 mm, were investigated. The results of the experiments are shown in two figures. It was found that the presence of a considerable pressure-gradient on the inactive part of the turbine wheel leads to a substantial increase in ventilation losses. The magnitude of the ventilation losses, due to the pressure gradient, can be

Card 1/4

33332

S/143/61/000/012/004/005

D299/D305

Ventilation losses of a turbine ...

estimated by calculations. The method, thereby, adopted was first used by L.V. Kartsev (Ref. 3: O raschete partzial'noy stupeni turbin, s podsozom rabochego tela, "Izv. vuzov SSSR-Energetika" no. 9, 1959). With comparatively small pressure gradients at the inactive part of the turbine wheel, one obtains

$$N_B \Delta p / 40 = N_B + \delta(N_B \Delta p), \quad (1)$$

$$\delta(N_B \Delta p) = \pi \cdot D \cdot (1 - \epsilon) l_p \sin \beta_2 \varphi_{H,D}^* (w_2 H,D)_0^2 \left[ \frac{u}{(w_2 H,D)_0} \right] \cdot \varphi_{H,D}^* \cdot \sqrt{\cos \beta_2} \cdot \frac{u}{1000} \cdot \gamma_1 \text{ (kw)}, \quad (2)$$

where  $\varphi_{H,D}^*$  is the discharge coefficient of the medium through the rim; this coefficient was experimentally determined, it expresses the ratio of the actual discharge to the theoretical discharge, computed on the assumption of isentropic flow with respect to the parameters of the medium in front of and behind the turbine wheel.

Card 2/4

33332

S/143/61/000/012/004/005

D299/D305

Ventilation losses of a turbine ...

The experimental curve for  $\varphi_{H,D}^*$  is shown in a figure. The velocity  $(w_2 H,D)_0$ , entering expression (2), is calculated from the pressure gradient at the inactive part of the wheel; the pressure gradient itself is determined from the discharge-balance equation. The quantity  $N_B$ , entering expression (2), equals the ventilation losses for  $\Delta p = 0$ , and can be estimated by means of well-known formulas, such as

$$N_B = K(1 - \varepsilon)l_p \cdot D^2 \gamma \left(\frac{n}{1000}\right)^3 \text{ (kw).} \quad (3)$$

The calculated values for the ventilation losses are in good agreement with the experimental results. There are 6 figures, 1 table and 3 Soviet-bloc references.

ASSOCIATION: Tsentral'nyy kotloturbinnyy institut imeni I. I. Polzunova (Central Boiler and Turbine Institute imeni I. I. Polzunov)

PRESENTED: by Turbinnaya sektsiya nauchno-tehnicheskogo Soveta (Turbine Department of the Scientific-and-Technical Council)

Card 3/4

33332

Ventilation losses of a turbine ...

S/143/61/000/012/004/005  
D299/D305

SUBMITTED: October 18, 1960

1X

Card 4/4

S/096/62/000/003/002/008  
E194/E455

AUTHOR: Terent'ev, I.K., Candidate of Technical Sciences  
TITLE: The influence of "partial" delivery on the reaction of  
a turbine stage

PERIODICAL: Teploenergetika 9 no.3, 1962, 10-21

TEXT: If steam is delivered to a stage not around the entire periphery but only over a certain arc, i.e. if the delivery is "partial", the reaction of the stage is affected. Working medium leaks through the meridional gaps at the edges of the active arc. Tests show that in the inlet section, working substance leaks in from the non-active part and that this can occur at up to 40% reaction. Since stages with partial delivery usually have only 5 to 10% reaction, this effect is likely to occur. At the other end of the nozzle segment, working substance leaks out. On the basis of this view of flow distribution the reaction of a stage with partial delivery can be calculated. The following expression is then derived for a reaction  $\rho$  of a stage with partial delivery:

Card 1/3

S/096/62/000/003/002/008  
E194/E455

The influence of "partial" ...

$$\rho_e = \frac{2 \frac{u}{c_0} \cdot \frac{1}{\varphi} \cdot \cos \alpha_1 - \left( \frac{u}{c_0} \right)^2 \frac{1}{\varphi^2} - 1 + (\beta - \mu \beta)^2}{\frac{u}{c_0} \cdot \frac{1}{\varphi} \cdot \cos \alpha_1 + \frac{1}{\varphi^2} - 1} \quad (9)$$

where  $\varphi$  - the velocity factor,  $\alpha_1$  - nozzle blade angle.  
The values of  $\mu$  and  $\beta$  are given by the following equations

$$\mu = \frac{s_{kp} \cdot l \left( \varphi + \varphi_m \sqrt{\beta} - 0,7 \frac{u}{c_0} \right)}{\epsilon \cdot \pi \cdot D_{cp} (\varphi_{cr} \cdot l_c \cdot \sin \alpha_1 - a_0 \cdot s_0 \cdot \sqrt{\beta})};$$

$$\beta = \sqrt{(1-\rho) + \left( \frac{u}{c_0} \right)^2 \frac{1}{\varphi^2} - 2 \frac{u}{c_0} \cdot \frac{1}{\varphi} \sqrt{1-\rho} \cdot \cos \alpha_1 + \frac{1}{\varphi^2} \cdot \rho}.$$

where  $s_{kp}$  - the distance between the edges of the runner and guide blades, m;  $l$  - the height of the runner blades;  $l_c$  - the height of the guide vanes;  $D_{cp}$  - the mean diameter of the guide vanes;  $\varphi_m$  - the flow factor through the gap between

Card 2/3

The influence of "partial" ...

S/096/62/000/003/002/008  
E194/E455

the edges of the runner and guide vanes;  $\varphi_{CT}^x$  - the stage flow factor;  $s_\beta$  - the gap between the shroud and the diaphragm;  $a_\beta$  - the flow factor through this gap;  $\rho''\epsilon$  - the degree of reaction at the periphery. Eq.(9) may be used to determine the degree of reaction of a stage with partial delivery under various operating conditions provided that the reaction of the stage is known for full delivery, with allowance for leakage through the shrouding. The calculations were checked against test results obtained in the TsKTI, particular attention being paid to accuracy of measurement of reaction, and the comparison shows satisfactory agreement between calculated and experimental values. There are 2 figures, 1 table and 5 Soviet-bloc references.

ASSOCIATION: Tsentral'nyy kotloturbinnyy institut  
(Central Boiler and Turbine Institute)

Card 3/3

TERENT'YEV, I.K., kand.tekhn.nauk

Results of the determination of the degree of moisture in steam  
using an electric calorimeter. Izv.vys.ucheb.zav.; energ. 5  
no.11:123-126 N '62. (MIRA 15:12)

1. TSentral'nyy kotloturbinnyy institut imeni I.I. Polzunova.  
(Steam) (Boilers)

MARKOV, N.M., kand.tekhn.nauk; TERENT'YEV, I.K., kand.tekhn.nauk;  
YERMASHOV, N.N., inzh.

Some results of the experimental study of the effect of steam  
moisture on the characteristics of turbine stages. Izv. vys. ucheb.  
zav.; energ. 6 no.3:68-74 Mr '63. (MIRA 16:5)

1. TSentral'nyy kotloturbinnyy institut imeni I.I.Polzunova.  
Predstavlena sektsiyey parovykh i gazovykh turbin.  
(Steam turbines)

ASTAF'YEV, A.N., kand.tekhn.nauk; TERENT'YEV, I.K., kand.tekhn.nauk

Testing of the moisture traps of a condensing steam turbine.  
Energomashinostroenie 10 no.3:45-46 Mr '64. (MIRA 17:4)

MARKOV, N.M., doktor tekhn. nauk, prof.; TEPLOVIT'YEV, I.K., kand. tekhn. nauk; MACHALIKO, Yu.A., inzh.

Effect of the distance between adjacent nozzle groups on entropy losses due to partial supply of the working medium in turbine stages. Izv. vys. ucheb. zav.; energ. 9 no.1:54-58 Ja '66. (MIR 19:1)

I. TSentral'nyy kotloturbinnyy institut imeni I.I. Polzunova.  
Submitted May 17, 1965.

REF ID: A6513  
APPC--P1--1 / 1  
ACCESSION NR: AP3003635

S/0135/63/000/007/0015/0016

AUTHOR: Terent'yev, I. N. (Engineer); Shchukov, Yu. N. (Engineer) 58

TITLE: More effective arc shielding during argon arc welding 16

SOURCE: Svarochnoye proizvodstvo, no. 7, 1963, 15-16

TOPIC TAGS: arc welding, gas-shielded arc welding, TIG welding, aluminum, aluminum alloy, double shielding, extended-nozzle shielding

ABSTRACT: Two new, improved shielding methods have been developed for use in TIG welding of aluminum and its alloys. The first makes use of an auxiliary stream of argon in addition to the main stream, the former preventing incidental air currents from deflecting the latter. The main nozzle is cylindrical (see Fig. 1 of Enclosure), which, as found earlier, gives better shielding than a conical nozzle. The auxiliary nozzle is conical; it produces a diverging stream around the main stream. Preliminary experiments showed that optimum shielding is obtained by increasing the diameter of the main nozzle from 8 to 12 mm without changing the argon consumption. The effect of the auxiliary stream was found to depend on the conicity of the auxiliary nozzle, angle  $\alpha$ , and the argon consumption. At a constant argon consumption of 6.5 l/min in

Cord 1/2

L 11239-63

ACCESSION NR: AP3003635

the main stream and with a 5-mm space between the nozzle and the part, the best shielding was obtained with an argon consumption in the auxiliary stream of 13.5 l/min and an angle  $\alpha$  of 20 or 50 degrees. Double shielding proved to be 35% more effective than single shielding. The second method also uses a nozzle with a cylindrical inner surface, but it is extended beyond the electrode tip so that it almost touches the work. This method provided the most efficient shielding with the lowest argon consumption. For instance, for making welds up to 12 mm wide, the required consumption of argon for ordinary single-stream shielding is 12 l/min; for double stream, 9.5 l/min; and for extended-nozzle shielding, 3.8 l/min.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 02Aug63

ENCL: 01

SUB CODE: ML

NO REF SCV: 001

OTHER: 001

Card 2/52

L 7667.66 EWP(m)/EWA(d)/EWP(v)/T/EWP(t)/EWP(g)/EWP(b)/EWA(c) IJP(c) MJW/JL/HM  
ACC NR: AP5025610 SOURCE CODE: UR/0135/65/000/010/0016/0018

AUTHOR: Terent'yev, I. M. (Engineer); Barutkin, F. Ye. (Engineer); Konovalov, G. S. (Engineer)

ORG: none

TITLE: Effect of welding conditions on the density of aluminum-alloy welds

SOURCE: Svarochnoye proizvodstvo, no. 10, 1965, 16-18

TOPIC TAGS: aluminum alloy, alloy welding, alloy weld, TIG welding, MIG welding, weld density, weld porosity/AMg6 alloy, ATsM alloy, VAD1 alloy

ABSTRACT: The effect of welding conditions on the porosity of AMg6, ATsM, and VAD1 aluminum alloy welds in sections 2.5—7.0 mm thick has been studied. Alloy specimens were TIG welded with a one- or three-phase arc and filler wire or MIG welded. Welding current was varied from 51 to 295 amp and welding speed, from 5 to 35 m/hr. At low welding speeds (5—17 m/hr), weld porosity decreased with decreasing welding speed and with increasing specific heat input. At 20—29 m hr, weld porosity decreased with increasing welding speed, but increased with increasing heat input. At welding speeds higher than 29 m hr, increasing the welding speed at a constant heat input decreased weld porosity. Weld porosity depends primarily on the temperature of the melting pool and on arc pressure. Lower melting-pool temperatures and higher arc pressures reduce porosity. The hydrogen, which is the primary cause of weld

Card 1/2 \* VAD1

UDC: 621.791.856.3.011:669.715

45

B

L 7667-66

ACC NR: AP5025610

porosity, is produced by the dissociation of aluminum hydroxide, the moisture in the arc zone, the diffusion of hydrogen from the parent metal, and the liberation of hydrogen from the molten parent and filler metals. Therefore, the optimum welding conditions for obtaining dense, poreless welds in aluminum alloys are a melting-pool temperature not exceeding 800C, keeping the pool in the molten state for the shortest possible time, a maximum cooling rate of the molten metal, and an arc pressure sufficiently high to break up completely the oxide film that forms on the pool. Orig. art. has: 4 figures. [MS]

SUB CODE: MM, IE/ SUBM DATE: none/ ORIG REF: 003/ ATD PRESS: 4141

Card

m.  
2/2

TERENT'YEV, I. S.

TERENT'YEV, I. S.: "Investigation of certain factors affecting the surface cleanliness and precision of working apertures in re-pairing tractor machinery." Min Higher Education USSR. Lenin-grad Ord r of Lenin Forestry Engineering Acad imeni S. M. Kirov, Leningrad, 1956.  
(Dissertation for the Degree of Candidate in Technical Sciences).

SO: Knizhnaya Ietopis', No 23, 1956

TERENT'YEV, I.S.

Heavy-feed machining of holes. Trudy ITA no.83:159-165  
'59. (MIRA 13:4)  
(Metal cutting)

TERENT'YEV, I.S.

Rigidity of vertical drilling machines and precision of machining.  
Trudy LTA no.83:167-172 '59. (MIRA 13:4)  
(Drilling and boring machines)

TERENT'YEV, I.S.

Effect of metalworking lubricants on surface smoothness and pre-  
cision of machining holes. Trudy LTA no.83:173-176 '59.  
(MIRA 13:4)

(Metalworking lubricants) (Metal cutting)

TERENT'YEV, Ivan Stepanovich; ZAZERSKIY, Ye.I., inzh., retsenzent;  
BLYUMBAUG, V.A., kand.tekhn.nauk, red.; VARKOVETS'KAYA, A.I.,  
red.izd-va; SHMETININA, L.V., tekhn.red.

[Drilling machines and their operation] Sverlil'nye stanki i  
rabota na nikh. Moskva, Gos.sauchno-tekhn.izd-vo mashinostroit.  
lit-ry, 1960. 206 p. (MIRA 13:9)  
(Drilling and boring machinery)

L 07960-67 EWT(1)

ACC NR: AT6031326

SOURCE CODE: UR/3138/66/000/435/0001/0012

AUTHOR: Perelomov, A. M.; Popov, V. S.; Terent'yev, I. V.

34

ORG: none

B+1

TITLE: Some peculiarities of the solutions to the Schrodinger wave equations for potentials with a Coulomb tail

SOURCE: USSR. Gosudarstvennyy komitet po ispol'zovaniyu atomnoy energii. Institut teoreticheskoy i eksperimental'noy fiziki. Doklady, no. 435, 1966. Nekotoryye svoystva resheniy uravneniya Shredingera dlya potentsialov s kulonovskim khvostom, 1-12

TOPIC TAGS: Schrodinger equation, wave equation, scattering matrix, Coulomb tail

ABSTRACT: An asymptotic form of the wave function  $\psi_{cm}(r)$  at  $r \gg 1$  has been found for the potentials of the type  $V(r) \sim \frac{1}{r} r \rightarrow \infty$ . The character of the  $\psi_{cm}(r)$  singularity at the point  $r^2 = -x^2$  was determined. A connection was found between the  $C_{xc}$  coefficient in the asymptotic formula derived and the residue of the scattering matrix  $S_c(k)$  at the pole  $k = i\omega$ , which

Card 1/2

L 07960-67

ACC NR: AT6031326

corresponds to the bound state. Conditions were obtained under which the deviation  $V(z)$  at small  $z$  from the purely Coulomb potential does not destroy the higher symmetry of the spectrum of levels. Orig. art. has: 24 formulas.

SUB CODE: 12 / SUBM DATE: 17Mar66 / ORIG REF: 007 / OTH REF: 007 /

Card 212 - e7/2

TERENIN, V. V.

Method for measuring autocorrelation functions of stationary  
random processes. Izv. vys. ucheb. zav.; radiotekh. 8 no.3;  
374-376 My-Je '65. (MIRA 18:9)

TRENT'YEV, I.Ye.

Using chemical methods for marking steel pieces. Stan. i instr. 29  
no.2:35-36 F '58. (MIRA 11:3)  
(Marking devices) (Chemistry, Technical)

TERENT'YEV, K.P., smenny master

Some shortcomings of the RTP-192-2 machine. Tekst.prom. 19  
no.2:57 P '59. (MIRA 12:5)

1. Yuzhskaya pryadil'no-tkatskaya fabrika.  
(Cotton machinery)

MIKHAYLOV, S.; TERENT'YEV, L.; SHIRYAYEV, G.

The GAZ-53B dump truck. Avt. transp. 43 no.12:42-45 D '65.  
(MIRA 18:12)

KUZ'MIN, I.A., kand.tekn.nauk; TERENT'YEV, L.I., inzh.

Regulation of the Volga-Akhtuba Canal by self-erosion.  
Trudy Gidroproyekta no.4:255-265 '60. (MIRA 15:2)  
(Volga-Akhtuba Canal--Regulation)

TERENT'YEV, L.I.

Report from Penza. Mashinostroitel' no.9:3 S '61. (MIRA 14:10)

1. Predsedatel' Penzenskogo sovnarkhoza.  
(Penza Province--Machinery industry)

BLOKHINA, A.; TERENT'YEV, M.; SHPAKOVSKIY, A.

Repairing semi-axle sleeves with a metal drawing process. Avt.  
transp. 35 no.1:30-31 Ja '57. (MLRA 10;3)  
(Axles)

TARENT'YEV, M.

Training work on the shift. Sov. profsoiuzy 6 no. 9:48-50 Ag '58.  
(MIRA 11:8)

1. Predsedatel' tsekhovogo komiteta profsoyuza, brigadir slesarey-  
montazhnikov Tambovskogo vagonoremontnogo zavoda.  
(Tambov--Trade unions)

TERENT'YEV, M.

Labor productivity in agriculture at the present-day stage and ways  
to increase it. Vop. ekon. no.12:26-31 D '60. (MIRA 13:12)  
(Agriculture--Labor productivity)

TERENT'YEV, M., inzh.; SOKOLOVSKIY, K., inzh.

Unloading stone in the Gorkiy docks using double-jaw grabs. Rech.  
transp. 19 no. 2:42-43 F '60. (MIRA 14:5)  
(Gorkiy—Electric cranes) (Stone—Transportation)

TERENT'YEV, M.

Further development and the consolidation of the collective  
farm system. Vop. ekon. no.10:42-50 O '61. (MIRA 14:10)  
(Collective farms)

TERENT'YEV, M., inzh.; BELOV, A., inzh.

Integrated brigade of Kazan' harbor. Rech.transp. 21 no.7:56  
J1 '62. (MIRA 15:6)

1. Gor'kovskaya normativno-issledovatel'skaya stantsiya.  
(Kazan--Longshoremen)

TERENT'YEV, M., inzh.; BELOV, A., inzh.

Improved system of operating the "Gants" crane. Rech. transp.  
21 no.9:47 S '62. (MIRA 15:9)

1. Gor'kovskaya normativno-issledovatel'skaya stantsiya.  
(Cranes, derricks, etc.)

TERENT'YEV, M.

Stand for testing oil pumps of the ZIL engines. Avt.transp.  
40 no.12:46 D '62. (MIRA 15:12)  
(Motortrucks—Engines—Testing)

TERENT'YEV, M.

In the effort for a vigorous upsurge in agriculture. Vop. ekon.  
no.9:3-15 S '63. (MIRA 16:9)  
(Agriculture)

"APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755330008-9

OSADCHIY, F., inzh.; GOLOSOV, V.; NOVIKOV, K.; MITIN, V.; RYBCHENKO, G.;  
KUZNETSOV, V.; TERENT'YEV, M., inzh.; MATKUZHIN, Zh.

Exchange of experience. Avt. transp. 42 no.11:47-51 N '64.  
(MIRA 17:12)

APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755330008-9"

24RENT'YEV, M., chernyj, L., trud.

1. Anti-vulcanization of sheathed electric cables of various  
manufacturers. Rech. transp. 21 no.8:39 Ag 162. (KIRA 18:9)

2. Gost'kovskaya normativno-issledovatel'skaya stantsiya.

TERENT'YEV, Mefodiy Ivanovich

[Millions of new apartments] Milliony novykh kvarтир. Izd.2.,  
perer. i dop. Moskva, Izd-vo VTS SFS Profizdat, 1958. 200 p.  
(MIRA 14:11)

(Housing)

TERENT'YEV, MELODIY IVANOVICH

*in A SHTILMO*  
Fifteen million new apartments, by M. Terent'yev.<sup>1</sup> Moscow, Trade-Union  
Publishing house, 1960.

106 p. illus.

Translated from the original Russian: 15 (i.e. pyatnadtsat') millionov  
novykh kvarтир, Moscow, 1957.

~~SPEDIMEN~~ Ivanovich, LARINA, L.M., redaktor; RAKOV, S.I.,  
tekhnicheskij redaktor

[Millions of new apartments] Milliony novykh kvartir. [Moskva]  
Izd-vo VTeSPS Profizdat, 1957. 125 p. (MLRA 10:9)

1. Zamestitel' predsedatelya TSentral'nogo komiteta profsoyusa  
rabochikh stroitel'stva (for Terent'yev)  
(Housing)

TERENT'YEV, M.K.

[Correlation between a rise in the productivity of labor and wages during the period of the large-scale building of communism in the U.S.S.R.] K voprosu o sootnoshenii mezhdu rostom proizvoditel'nosti truda i zarabotnoi platy v period razvernutogo stroitel'stva kommunizma v SSSR. Novocherkassk, Novocherkasskii politekhn. in-t, 1960. 91 p. (MIRA 15:5)  
(Wages and labor productivity)

~~TERENT'YEV, M.I.~~; OSAD'KO, M.P.; BRAGINSKIY, B.I.; SLOBODIN, V.M.; FISHMAN,  
Z.A.; LEVIN, I.Ye.; TSYNKOVA, M.Yu.; BADIR'YAN, O.O.; TYUTIN, V.A.;  
ABRAMOV, V.A.; PRAYER, S.V.; KOBCHIKOVA, I.A.; KARNAUKHOVA, Ye.I.;  
OBOLMINSKIY, I.P.; IL'IN, S.A.; GAVRILOV, V.I.; FREYDMAN, S.M.;  
KALASHNIKOVA, V.S., redaktor; LAPIDUS, M.A., redaktor; RAKITINA,  
Ye.D., redaktor; FEDOTOVA, A.F., tekhnicheskiy redaktor

[Manual for students of collective farm economy] V pomoshch' izuchaiushchim ekonomiku kolkhozov. Moskva, Gos. izd-vo selkhoz. lit-ry, 1956. 423 p.  
(Collective farms) (MIRA 10:1)

~~TERENT'IEV, M.I.~~

The computation of production costs on collective farms. Vop.ekon.  
no.4:80-87 Ap '56. (MLRA 9:8)  
(Collective Farms--Accounting)

TERENT'YEV, M.L.

~~TERENT'YEV; Mark Leont'yevich~~

[The cost of collective farm production] Sebestoimost' kolkhoznoi  
produktsii. Moskva, Sel'khozgiz, 1957. 244 p. (MIRA 11:1)  
(Collective farms--Costs)

TERENT'YEV, M. L.

"System of Purchase Prices, Conditions and Order Agricultural Produce  
Procurement in the USSR."

paper# distributed at the 10th International Conference of Agricultural Economics  
Mysore, India, 24 Aug - 4 Sep 58.

TERENT'YEV, M. L.

Price determination of agricultural products. Vop. ekon. no. 3:58-66  
(MIRA 11:4)  
Mr '58.  
(Agriculture--Prices)

TERENT'YEV, Makar Leont'yevich, kand. ekonom. nauk; KHMEL'NOY, I.G.,  
red.; GLAZUNOVA, N.I., red.izd-va; NAZAROVA, A.S., tekhn. red.

[Agricultural planning in collective farms] Planirovanie sel'sko-  
khoziaistvennogo proizvodstva v kolkhozakh. Moskva, Izd-vo  
"Znanie," 1961. 40 p. (Narodnyi universitet kul'tury: Sel'skokho-  
ziaistvennyi fakul'tet, no.11) (MIRA 14:10)  
(Collective farms)

TERENT'YEV, M.M.

Category : USSR/General Problems - Problems of Teaching

A-3

Abz Jour : Rof Zhur - Fizika, No 3, 1957, No 5545

Author : Terent'ev, M.M.

Title : Teaching the Topic "Heat Engines" in the VII Class.

Orig Pub : Fizika v shkole, 1956, No 5, 22-27

Abstract : No abstract

Card : 1/1

TERENT'YEV M. M.

Terent'yev, M. M. "The study of heat engines in the physics course in the ninth class of intermediate school." Academy of Pedagogical Sciences RSFSR. Sci Res Inst of Teaching Methods. Moscow, 1956. (Dissertation for the Degree of Candidate in Pedagogical Science)

So: Knizhnaya letopis', No. 27, 1956. Moscow. Pages 94-109; 111.

TERENT'YEV, M. M.

Studying heat engines in ninth-class physics courses. Fiz. v  
shkole 17 no.1:39-47 Ja-F '57. (MLRA 10:2)

1. 443-ya srednyaya shkola, Moskva.  
(Heat engines--Study and teaching)

TERENT'YEV, Mikhail Mokeyevich; DROZHIN, Yu.N., red.; SHCHEPTEVA, T.A.,  
tekhn. red.

[Studying heat engines in the physics course for the ninth grade]  
Izuchenie teplovykh dvigatelei v kurse fiziki IX klassa; posobie  
dlia uchitelei. Moskva, Gos. uchebno-pedagog. izd-vo M-va prosv.  
RSFSR, 1958. 125 p. (MIRA 14:7)  
(Physics—Study and teaching) (Heat engines)

POKROVSKIY, A.A., kand.pedagog.nauk, starshiy nauchnyy sotrudnik;  
BUROV, V.A., uchitel'; GLAZYRIN, A.I., starshiy nauchnyy sotrudnik,  
pensioner; DUBOV, A.G., starshiy nauchnyy sotrudnik; ZVORYKIN, B.S.,  
nauchnyy sotrudnik; KAMENETSKIY, S.Ye., uchitel'; KOSTIN, G.N., pre-  
podavatel'; MIRGORODSKIY, B.Yu., uchitel'; OREKHOV, V.P., prepoda-  
vatel'; ORLOV, P.P., prepodavatel'; RAZUMOVSKIY, V.G., aspirant;  
RUMYANTSEV, I.M., aspirant; TERENT'YEV, M.M., prepodavatel';  
KHOLYAPIN, V.G., prepodavatel'; SHAKHMAYEV, N.M., nauchnyy sotrudnik,  
uchitel'; VOYTENKO, I.A., uchitel' sredney shkoly, pensioner; STA-  
ROSTIN, I.I., prepodavatel'; MOGILKO, A.D., aspirant; SEMAKIN, N.K.;  
KOPTIJKOVA, L.A., red.; LAUT, V.O., tekhn.red.

[New school equipment for use in physics and astronomy] Novye  
shkol'nye pribory po fizike i astronomii. Pod red. A.A.Pokrovskogo.  
Moskva, Izd-vo Akad.pedagog.nauk RSFSR, 1959. 161 p. (MIRA 12:11)

1. Akademiya pedagogicheskikh nauk RSFSR, Moscow. Institut metodov  
obucheniya. 2. Laboratoriya metodiki fiziki Instituta metodov obuchе-  
niya Akademii pedagogicheskikh nauk RSFSR (for Pokrovskiy). 3. Sred-  
nyaya zhaleznodorozhnaya shkola st.Kratovo, Moskovskoy oblasti (for  
Burov). 4. Institut metodov obucheniya Akademii pedagogicheskikh nauk  
(for Glazyrin, Dubov, Razumovskiy, Rumyantsev).

(Continued on next card)

POKROVSKIY, A.A.---(continued) Card 2.

5. Institut metodov obucheniya Akademii pedagog.nauk; srednyaya shkola No.315 Moskvy (for Zvorykin). 6. Srednyaya shkola No.212 Moskvy (for Kamenetskiy). 7. Krusnodarskiy pedinstitut (for Kostin). 8. Srednyaya shkola No.18 g.Sumy (for Mirgorodskiy); 9. Ryazanskiy podinstitut (for Orekhov). 10. Stalingradskiy pedinstitut (for Orlov). 11. Moskovskiy gorodskoy pedinstitut; srednyaya shkola No.443 Moskvy (for Terent'yev). 12. Balashhevskiy pedinstitut (for Kholynpin). 13. Institut metodov obucheniya Akademii pedagog.nauk; srednyaya shkola No.215 Moskvy (for Shakhamayev). 14. Moskovskiy pedinstitut im. V.I.Lenina (for Starostin). 15. Pedinstitut im. V.I.Lenina v Moskve (for Mogilko). 16. Zaveduyushchiy narodnoy astronomicheskoy observatoriyyey Dvortsu kul'tury Moskovskogo avtozavoda im. Likhacheva (for Semakin).

(Physical instruments)

TERENT'YEV, M.M. (Moskva)

Uniflow boiler. Fiz. v shkole 19 no.1:93-94 Ja-P '59. (MIRA 12:3)

1. 443-ya srednyaya shkola.  
(Boilers--Models)

POKROVSKIY, A.A., starshiy nauchnyy sotrudnik; ZVORYKIN, B.S.; KUZ'MIN,  
A.P.; RUMYANTSEV, I.M.; TERENT'YEV, M.M.; SHAKHMALEV, N.M.;  
DAVYDOVSKIY, G.P., red.; DZHATTIYAVA, T.Kh., tekhn.red.; KOR-  
NEYEVA, V.I., tekhn.red.

[Demonstrative experiments on heat and molecular physics] De-  
monstratsionnye opyty po molekuliarnoi fizike i teplote; posobie  
dlia uchitelei. Pod red. A.A.Pokrovskogo. Moskva, Gos.uchebno-  
pedagog.izd-vo M-va prosv.RSFSR, 1960. 169 p. (MIRA 13:5)  
(Molecules) (Heat)

TERENT'YEV, M.M. (Moskva)

Demonstrating the role of a condenser in a steam power installation.  
Fiz.v shkole 22 no.1:67-68 Ja-F '62. (MIRA 15:3)  
(Steam engineering--Study and teaching)

"APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755330008-9

TERENT'EV, M.B., Inzh.

Universal stand for testing all parts of the 310 engines. Machine  
specification no. 5390-03, 8-0 161  
(MIRA 1852)

APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755330008-9"

GODNEV, T.N.; TERENT'YEV, M.V.; PARMON, K.P.

Relative energy of chlorophyll extraction from different plants  
by inactive solvents. Sbor.nauch.trud.Inst.biol.AN BSSR no.1:  
3-7 '50.  
(Chlorophyll) (Extraction (Chemistry))

(MLRA 9:1)

24.6900  
S/056/60/039/006/043/063  
B006/B063

AUTHOR: Terent'yev, M. V.

TITLE: Muon Decay From the K-Orbit

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,  
Vol. 39, No. 6(12), pp. 1734 - 1736

TEXT: The decay probability for  $\mu^- \rightarrow e^- + \nu + \bar{\nu}$  has been experimentally determined for the case where the meson in the atom is in a bound state. It was found that the decay probability  $\lambda(\xi)$  (where  $\xi = Z/137$ ) first rises and then decreases sharply with growing  $\xi$ ; at  $\xi \gtrsim 0.22$  it is smaller than the decay probability,  $\lambda_0$ , of the free muon. In contradistinction to experimental results, a monotonic decrease of  $\lambda(\xi)$  with growing  $\xi$  has been found by a theoretical study of  $\lambda(\xi)$  which is correct up to terms linear in  $\xi$ . In doing so, the author started from the assumption that the muon on the K-orbit of the atom having a point nucleus is in a bound state. The author studies the effect produced by taking account of the finite nuclear dimensions; uniform nuclear charge distribution and a radius of

Card 1/4

VX

88451

Muon Decay From the K-Orbit

S/056/60/039/006/043/063  
B006/B063

$R = 1.2 \cdot 10^{-13} A^{1/3}$  are assumed. The following is written for the spectrum of the electrons formed on muon decay by taking account of all effects making contributions of the order of  $\xi^0$  or  $\xi^1$ :

$$dW = \frac{w_0}{\pi} (\Phi_1 + \xi \Phi_2) dy, \quad (1)$$

$$w_0 = 16\lambda_0(3 - 4y)y^3, \quad \lambda_0 = G^4 \mu^4 / 192\pi^3,$$

$$\Phi_1 = \frac{\pi}{2} + \arctg \frac{1-2y}{\xi} + \frac{\xi(1-2y)}{X} + \frac{2\xi^2(1-2y)}{3X^2} - \frac{2\xi^3}{3X^3},$$

$$\Phi_2 = \left( \arctg \frac{1-2y}{\xi} \right)^2 - \frac{\pi^2}{4} + \frac{2\xi(1-2y) + \xi^3}{X_0} + \frac{2}{3} \xi^2 \frac{2\xi(1-2y) - \xi^3}{X_0^2},$$

$$X = \left( 2y - 1 + \frac{\xi^2}{2} \right)^2 - \xi^2, \quad X_0 = (2y - 1)^2 + \xi^2, \quad \xi = \xi - 0.306 \xi^3 \mu R,$$

where  $y = \varepsilon/\mu$ ,  $\varepsilon$  - electron energy;  $\mu$  - mass of mesons;  $G$  - weak interaction constant. The following is assumed for the interaction:

$U_{int} = G(\bar{\psi}_e \gamma_5 (1 + \gamma_5) \psi_e)(\bar{\psi}_\mu \gamma^5 (1 + \gamma_5) \psi_\mu)/\sqrt{2}$  and the muon wave functions are given as:

Card 2/4

88451

## Muon Decay From the K-Orbit

S/056/60/039/006/043/063  
B006/B063

$$\psi_\mu(r) = \psi_\mu^{(0)}(r) + \psi_\mu^{(1)}(r),$$

$$\psi_\mu^{(0)} = C u(0) \begin{cases} 1-a(r/R)^{3/2} & r < R \\ w \exp[b(1-r/R)] & r > R \end{cases}$$

$$\psi_\mu^{(1)} = C \frac{1}{2} \xi \gamma_0 \vec{\gamma} \cdot \vec{r} e^{-\mu f r} u(0); \quad \gamma_0 = \begin{pmatrix} 1 & 0 \\ 0 & -1 \end{pmatrix}, \quad \vec{\gamma} = \begin{pmatrix} 0 & \vec{\sigma} \\ -\vec{\sigma} & 0 \end{pmatrix}.$$

$\psi_\mu^{(1)}$  is the relativistic correction,  $\gamma_0$  and  $\gamma$  denote Dirac matrices,

$u(0)$  - spin function,  $C$  - a normalization factor,  $a$ ,  $b$ , and  $w = 1-a$  are functions of  $t = f\mu R$ . These parameters are tabulated in a paper by G. Pustovalov. It was found that the range  $r < R$  does not contribute to the spectrum, and that the effect of the nuclear dimensions leads to the substitution of  $f = f - 0.306 f t$  for  $f$ . The consideration of the nuclear dimensions when studying the electron - nucleus interaction leads to the

substitution of  $k^{-2} f \cos kR + \varphi(k)/k$  for  $f k^{-2}$ , where  $k$  denotes the momentum transferred by the electron and  $\varphi(k)$  is related to the concrete charge distribution in the nucleus.  $\varphi(k)$  approaches zero with  $k \rightarrow 0$ . It was found, however, that finite nuclear dimensions make only a contribution

proportional to  $f^3$ , hence they do not influence the approximation con-

Card 3/4

Muon Decay From the K-Orbit

88451  
8/056/60/039/006/043/063  
B006/B063

cerned. The functions  $dW/dy$  and  $\lambda(\xi)$  are graphically represented.  $\lambda(\xi)$ , in turn, is a monotonically decreasing function not approaching the experimental function. Even when taking account of the finite nuclear dimensions the experimental  $\lambda(\xi)$  curve cannot be explained by the assumption of muon decay from the K-orbit (cf. H. Jberall, Refs. 3,5). The author thanks V. B. Berestetskiy, A. O. Vaysenberg, and L. B. Okun' for their interest in the work. There are 3 figures and 5 references: 1 Soviet, 3 US, and 1 Italian.

SUBMITTED: July 8, 1960

Card 4/4